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WINTER 1961

family safety

PLAY SAFE WITH CHEMICALS

Also:

Why Don't Pilots Learn To Fly?

Give Your House a Wiring Check-Up

Surprising Facts about Carbon Monoxide

Be 419aw

Be 419aw

Seat belts are going places!

Yes, seat belts have found their way to high places. Both Princess Margaret, gay in her fur coat and Rolls-Royce, and Chancellor Konrad Adenauer, somber in a practical German car, always buckle in before giving the chauffeur the "go ahead." The Princess wears an over-the-shoulder harness; Adenauer prefers a lap belt.

But famous persons aren't the only ones to recognize the protection of seat belts. Belts, at long last, are catching on with thousands of everyday drivers! Nearly twice as many motorists have belts today as they did several years ago. Five times more new car buyers ask for belts now as compared with a year ago. Major auto manufacturers have installed brackets in the 1962 cars, making it easy to attach belts.

Seat belts have risen to new heights of acceptance, and experts predict their popularity will continue to spurt upward.

Vol. 20
No. 4

WINTER 1961

Formerly HOME SAFETY REVIEW

family safety

Published by the NATIONAL SAFETY COUNCIL

Editor
JEAN CARPER

Associate Editor
MEREDA DAVIS

FAMILY SAFETY is published in support of safety programs directed by:

NSC Vice President for Homes
GEORGE M. WHEATLEY, M.D.

NSC Vice President for Traffic
REX M. WHITTON

NSC Chairman for Public Safety
WALTER F. CAREY

NATIONAL SAFETY COUNCIL
Chartered by the Congress of the United States

Home Office: 425 N. Michigan Ave., Chicago 11, Ill.

San Francisco Office: 703 Market St., San Francisco 3, Calif.

New York Offices:
Field Service & General Information, 60 E. 42nd St., New York 17, N.Y.

Public Service Fund, 639-40 Chrysler Bldg., New York 17, N.Y.

FAMILY SAFETY is published quarterly by the National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill. Copyright 1961 by the National Safety Council. Printed in U.S.A. Subscriptions (4 issues) each: 1—$2.00; 2—$1.40; 10—$1.10; 50—$.85; 500—$.70; 1000—$.67; 5,000—$.64. Add $.30 per subscription for foreign other than Canada and Pan American Union. Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

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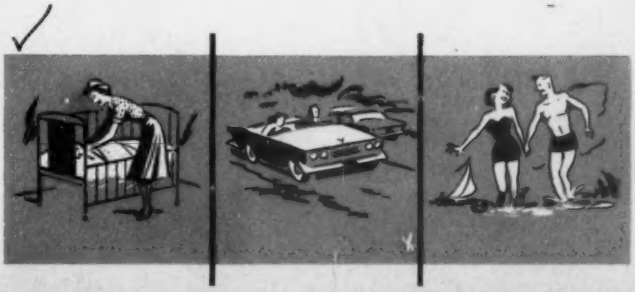
Cover photo, James B. Lehman



CHICAGO'S long-time colorful politician Alderman Charlie Weber died in his sleep last year along with his wife. At first, investigators were stumped by the mysterious circumstances surrounding the deaths. Neither body bore marks, except for a slight pinkish tinge around the shoulders and neck. One of the alderman's Cadillacs was idling in the garage attached to the house. In the garage ceiling was a hatch opening to an attic that covered the entire house, including a far bedroom in which the Webers slept.

After several tests, engineering experts solved the mystery. Carbon monoxide fumes from the exhaust of the quiet-running car (which Weber had forgotten to shut off after closing the garage door) had risen through the garage ceiling hatch and flooded the attic. The deadly gas had then seeped from the attic floor through the plaster into the Webers' bedroom, building up a concentration of CO capable of killing them in about three hours.

SURPRISING FACTS about CARBON MONOXIDE

Selfbud

Strange accidents like this involving carbon monoxide are not infrequent. They are more common than you might think. Everyone knows vaguely that a gas called carbon monoxide is deadly, but few persons know really what it is or the surprising ways it can work. Consequently, about 600 persons every year die from carbon monoxide poisoning.

No one can escape the threat of carbon monoxide. It has been with us since our prehistoric ancestors began building fires in caves. It results when a fuel containing carbon does not burn up completely, usually because of insufficient air. Therefore, every time you burn coal, coke, oil, kerosene, gasoline, wood, charcoal, natural or manufactured gas anywhere – in a heater, bonfire, grill, automobile, appliance – you have started a potential carbon monoxide factory.

If the fumes are directed harmlessly into wide-open spaces by a heater's vent or car's tail pipe, you are usually safe. But, if for some reason, the mechanical system for disposing of CO breaks down and allows carbon monoxide to accumulate in a small area, you are in trouble. You are practically defenseless, for you cannot detect the gas. It is invisible, odorless, colorless, tasteless and creeps slowly into a person's bloodstream, rendering him weak and groggy.

How CO works

Carbon monoxide is not classified as a poison in the usual sense, for it does not destroy body tissue directly. It acts much more subtly. Ordinarily, the oxygen we breathe combines with red blood cells which transport it throughout the body to keep tissues alive. But a strange thing happens if we take carbon monoxide into our lungs. The red blood cells that normally carry oxygen would 300 times rather combine with carbon monoxide. Consequently, the blood gobbles up CO and refuses to transport vital oxygen, thus starving body tissues.

The lack of oxygen (anoxia) is felt first in nerve tissues and the brain because they require more oxygen than other tissues. The victim feels a tightening across his forehead, then a throbbing headache that is such a classic symptom it is called the "carbon monoxide headache." Nervousness, drowsiness, nausea and vomiting may follow, then unconsciousness and death.

But dying is not the only thing to fear from carbon monoxide. Some persons who withstand severe gassing and unconsciousness end up with irreparable brain damage that causes loss of memory, sight, speech and hearing. Some victims develop a paralysis and mental disturbances as severe as psychoses. Breathing even low concentrations of CO for prolonged periods can produce anemia, dizzy spells, circulatory impairment, nervousness and irritability.

Danger while driving

Where are you likely to encounter carbon monoxide? Most frequently in automobiles. Everyone has heard of motorists being asphyxiated while sitting in a running car in a closed garage or beside the road. Prevention of this type accident is easy: Don't let a stopped car's motor run for more than a few minutes and even then keep windows or garage door open.

Far less known and yet equally important is the danger of being overcome by carbon monoxide while in a moving car. Some traffic authorities believe this problem is underestimated and may help account for the startling number of motorists who seemingly go to sleep at the wheel or drive off the road without apparent reason. One man on the Pennsylvania turnpike, for example, bashed into the car ahead of him on a straightaway in broad daylight. The saturation of car-

DID YOU KNOW—?

• Smoking while driving can be dangerous.
Inhaling tobacco smoke that contains carbon monoxide reduces the blood's capacity to carry oxygen sometimes as much as 10 per cent. The eyes suffer first, causing impairment of night vision.

• The hibachi produces CO fumes.
This small indoor barbecue, used for hors d'oeuvres, burns charcoal that can give off great amounts of CO. The danger increases with the length of time it is used and lack of ventilation.

• Modern houses are more likely to keep in CO.
Unlike old houses, the well-insulated, tightly constructed modern house has few leaks to let in air and help reduce the threat of CO. Ventilation, therefore, in new houses is extra important.

• Some persons are more susceptible to CO.
Some bodies automatically muster strong defenses to CO poisoning. Some victims of CO have lived while others equally exposed died. In general, smaller persons, children and the elderly succumb most easily to CO.

• CO poisoning is long-lasting.
A few whiffs of oxygen do not flush CO from a person's system. Sometimes CO does not disappear from the blood stream for a day or two. During that time the victim is still impaired to a certain degree.

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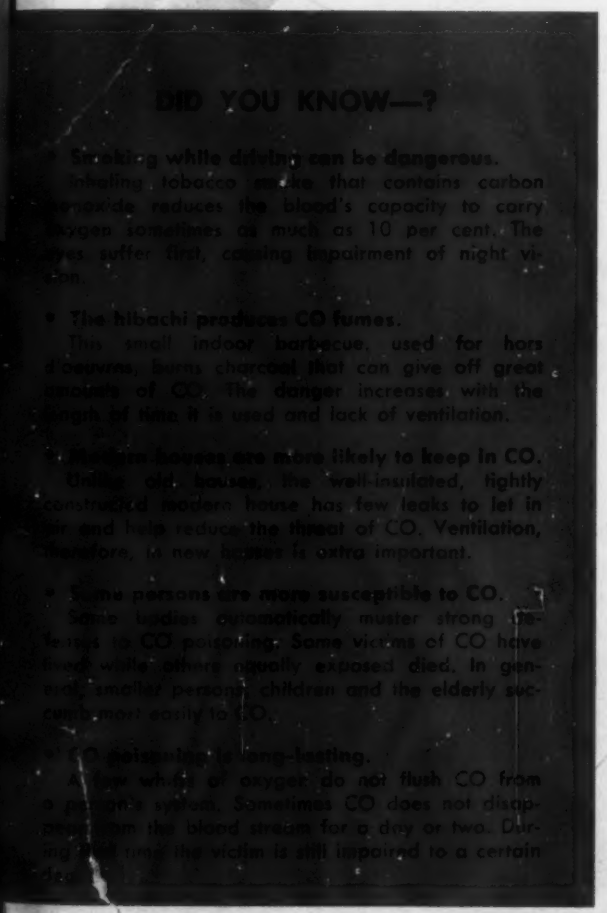
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Mechanic checks a faulty muffler which could send CO fumes into a car, causing the driver to collapse.

bon monoxide in his blood measured 34 per cent.

Riders, of course, are also threatened. A middle-aged man enroute through Colorado turned to his wife to complain of a headache and discovered her unconscious on the seat beside him. He revived her but she was left with serious blood and brain damage. Another couple touring the West stopped for a view of mountain scenery and found their two youngsters dead in the back seat. The cause: carbon monoxide poisoning.

Accidents like these can usually be traced to mechanical failure in the automobile's exhaust system. The fault may be a blown gasket, loose manifold, leaky tail pipe, holes in the muffler. All of these could allow fumes to seep into the car interior instead of forcing them to the end of the tailpipe where they are dispersed safely into the air. That's why it can be life-saving to have an exhaust system checked regularly and repaired promptly. Mechanics can test your car for carbon monoxide leaks by pouring a little oil in the carburetor while the engine is running. The smoke that is produced will puff through any breaks in the exhaust system.

Another way to protect yourself is to drive in both warm *and cold* weather with at least side vents open. Tests have shown that merely rolling down windows can create a vacuum that actually draws CO fumes into the car; side vents, on the other hand, force air currents through the car, cleansing it of carbon monoxide. However, when you travel bumper-to-bumper in city traffic, it's best to keep windows and air vents closed if weather permits, so fumes from surrounding cars can't rush into your car.

At home carbon monoxide poisoning is caused the same way as on the highway — by faulty venting system and lack of fresh air. The two important facts are: (1) All non-electrical heating or cooling equipment (except a cooking range) must have flue connections which vent carbon monoxide outdoors. (2) In order to burn efficiently and not produce quantities of carbon monoxide, this equipment must also have a good air supply.

Failure to meet these two requirements has brought tragedies like these: A man, deciding to have a basement fish fry on his portable charcoal stove, lighted the briquets outdoors, let them burn to gray ashes, then took the stove inside for the cooking. Soon after everyone was served, guests complained of headaches and nausea. One man died, five were hospitalized and 19 others became ill. The host had not known he needed a mechanism for piping carbon monoxide fumes away from the burning charcoal — which incidentally gives off nearly pure CO. Although the indoor barbecue is growing ever more fashionable, it's wise not to attempt one unless you have a permanent indoor pit with well-installed escape hatch for CO fumes.

A Michigan couple died last year although their furnace was well vented and in tip-top operating condition. Before going to bed in their modern ranch style house, the couple kindled a fire in the fireplace. The burning consumed much of the oxygen supply in the house. Deprived of oxygen, a furnace that was also operating could not burn its fuel completely and consequently gave off carbon monoxide which asphyxiated the couple. Had they kept windows open to replace the used oxygen, this never would have happened. You should always, especially in cold weather, leave at least one window open, preferably in your bedroom. The draft will both help heaters burn without producing undue CO and help sweep CO fumes from your bedroom.

Another important precaution is to have a serviceman check your heating equipment every year before the cold season. He should be sure flues and stove pipes are tightly connected, that there are no leaks and that chimneys are not clogged. Soot and crumbled bricks have been known to block chimneys and force CO back into a house, killing occupants.

Occasionally you may risk carbon monoxide poisoning in other places such as a vacation cottage, motel or trailer used for a hunting or camping trip. In fact, for two years in succession there has been a rash of CO poisonings among hunters sleeping in small trailers. The cause is usually the same: a furiously burning gas heater in a tightly closed small space with no air inlet.

Whenever you enter strange living quarters make sure the heater is vented before turning it on. Then throw open a window or two, for fresh air is always your greatest safeguard against carbon monoxide.●

Readers ? Ask

Questions answered by PHILIP DYKSTRA
Manager, Home Safety Department

Is it safe to refreeze meat that has thawed?

If the meat is fresh at the original freezing, it is okay to refreeze it. However, there may be some degrading of flavor and quality with the second freezing. There should be no appreciable difference between types of meat, such as pork or beef, but pork might deteriorate faster under prolonged thawing and heat.

The risk in refreezing cured or smoked meats is greater because it is possible these meats may be slightly spoiled even though there is no discoloration, off-odor or other signs of spoilage.

Should washing machines be grounded?

Yes, it's especially important that the frame of a washing machine be grounded because you are likely to touch it with damp hands or when standing in water. And moisture readily conducts electricity through your body.

If the washer because of worn parts or insulation develops a short circuit, you might receive a shock which could be lethal. A simple way to ground a washing machine is to clamp one end of a conductive wire to a leg bolt of the washer or other bare metal parts and the other end to a water pipe. A more convenient ground can be provided with a three-wire cord, a three-prong plug and grounded outlet. When buying a new washing machine ask that it have this three-wire grounding system.

Is there any danger in an automatic garbage disposal?

There is potential danger in the continuous feed type disposal which is operated by a switch and can be turned on even though the grinding device is uncovered. This type can be hazardous to children or adults if the opening is large enough to get the hands into it.

The other basic type has a safety cap that must be closed in order to start the mechanism. There is no opening while the disposal is in operation, thus making it safe to use.

Why should children sleep with the bedroom doors closed?

In case of fire, the bedroom door is a barrier against lethal fumes. Second-floor bedrooms are much more dangerous because the hot gases rise rapidly to the upstairs rooms from the lower floors. Tests have shown that in a bedroom with the door open, you have only 2 minutes to survive a fire, while with the door closed, you have from 5 to 11 minutes. Doors hold back smoke and toxic gas – the most common causes of death from fires.

I've heard red no longer is the best color for hunters' clothing. What is?

Fluorescent orange was found to be best following a number of tests with various colors in Massachusetts. The daylight fluorescent orange stays visible after sundown much longer than other colors.

Red was poor because it can't be seen at dawn and dusk and can't be distinguished by color blind hunters. Yellow is okay in good light, but appears as gray or white after sundown.

Is snow blindness painful?

Yes, a bad case of snow blindness can be painful. Bright sunlight reflected from snow or ice often causes severe sunburn of the eye. However, snow blindness is most likely to occur on days when there is a slight overcast sky which produces no shadows. Symptoms are the feeling that you have small grains of sand in the eyes and gradual shooting pains.

When these symptoms occur you should immediately shield the eyes from light, preferably by entering a dark room, and apply a few drops of mineral oil. Skiers and other outdoorsmen should wear dark glasses or goggles to protect the eyes against snow blindness. If exposed for long periods to winter sun you should also protect your face from sunburn with lotion.

by JEAN CARPER

Why Don't Pilots Learn to FLY ?

The shocking fact is: 60 per cent of all small plane crashes happen because pilots don't know how to fly out of bad weather.

AFTER TAKING off from a Nantucket field last July, a small plane carrying four passengers climbed upward and disappeared into fog at 50 feet altitude. Seconds later there was a roar of the engine and a great thud as the plane struck treetops, dropped and skidded through brush. All occupants were killed. Investigators reported that the pilot evidently became confused when milky fog enveloped the plane and instead of going straight, mistakenly turned right into the trees.

A Midwestern pilot took off solo in a single engine Land one winter night for a short jaunt of 60 miles. The ceiling was low, with light rain and sleet, but the weather met minimum visibility standards at the airport. Nine miles away the plane plunged at full speed out of a left diving turn into a farmer's field. After studying scattered wreckage, aeronautics officials concluded the pilot, blinded by darkness and an icy windshield, lost track of the horizon and thought he was flying parallel with the ground when ac-

tually he was speeding toward it.

A middle-aged man, his wife and two children, after being delayed by bad weather reports, finally left an Eastern airport at 11:30 one morning in fairly clear skies. Some time in late afternoon while flying in fog over western Pennsylvania they evidently lost their way and smashed into the top of a heavily forested mountain. An alert went out when the plane failed to arrive at its destination. Twelve days later it was found demolished and charred with four bodies inside.

Flew by "seat of the pants"

All these accidents can be attributed to one cause: the pilot did not know how to fly in poor-visibility weather. He flew by the old-fashioned "seat of the pants" method, relying on his senses and intuition to carry him through the crisis. When these failed, as they always do in clouds and fog, he was helpless.

Only one thing could have rescued these three pilots from death by weather – instruments, the kind airline transport pilots use. A bank indicator would have shown the first pilot that he was in a sharp right turn. An artificial horizon mechanism would have indicated that the second pilot's plane was in a downward spin. An omni radio system would have provided a beam that the third pilot could have followed straight out of the fog.

Now, for the real shocking fact: Most light planes are equipped with such instruments, *but pilots are not trained to use them!* In the three cases cited, instruments probably foretold each plane's impending disaster but the pilot was tragically unable to comprehend their warnings.

Only a small percentage of our 484,000 private pilots are certified to fly by instruments. The great majority, although holding valid pilot's licenses, are trained to fly only by vision.

This alarming situation has been recognized by the Federal Aviation Agency. As of last year, the FAA ruled, no one can obtain a new pilot's license unless he is reasonably competent in instrument flying. Although the agency has no immediate plans for requiring instrument training for pilot license renewals, it strongly urges all pilots to learn the use of instruments. Through law and education the FAA hopes to cut the high toll of light plane accidents.

Pilot was to blame

Last year there were 4,556 accidents that seriously injured several hundred persons and killed 835. The most significant fact is that fully 60 per cent of all fatal light plane crashes can be traced to the pilot's inability to use instruments in adverse weather. Nearly 500 persons die every year as a result of such incompetency in the cockpit.

Why don't pilots learn to fly by instruments? The typical "seat of the pants" flyer believes he doesn't need instruments because he thinks he can avoid flying in bad weather and in clouds. But this is a fallacy,

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An hour of flying "blind" in a Link Trainer convinces many pilots they need training in instruments.

say experts. A person who flies either on the East or West Coasts cannot avoid smog; weather, especially on long trips is not predictable, and it is often physically impossible to stay out of clouds.

"A flyer's eyes, no matter how excellent the vision, are useless in warning him of clouds ahead," says Dr. Harold N. Brown, president-elect of the Flying Physicians Association. He explains it this way: Eyes can't perceive depth in the sky the way they can on earth. There's no perspective in the sky as there is on earth — no railroad tracks that seem to converge in the distance. Clouds aren't of uniform size, so often you can't tell whether a certain cloud is a small one nearby or a large one far away. There may be no overlapping contours to show whether one cloud is ahead of another; they seem to fuse. Indistinctness of outline that signifies distance on earth doesn't work in the sky either. If you view a cloud through haze, as often happens, it appears indistinct although it is close. For these reasons, plus others, a pilot can't judge how far away clouds are and can be in them before he knows it.

Once he enters clouds, he can be in serious trouble. He is flying blind. Some pilots caught in clouds wander in circles. Others do flip flops without knowing it. Many become dizzy and nose downward in a spiral, a position so common it is called the graveyard dive.

Misguided by senses

There is good reason for these strange antics, according to Dr. Brown. Every pilot in a cloud is bound to lose control of his plane unless he uses instruments properly.

"This is a fact of which many pilots are unaware," says Brown. "They think that although their vision is obstructed they can depend upon body senses to tell them which way they are moving in relation to the earth. After all, can't they walk around blindfolded on the ground with no trouble? But this reasoning could not be more wrong! The bodily senses are not reliable in a plane. In fact, they do more to mislead a pilot than to guide him. One of the basic problems in training an instrument flyer is to make him believe the instruments when they conflict with inaccurate messages from his senses."

One way a pilot determines direction is by pressure on the seat of his pants. He has learned, for example, that when he enters a climb the pressure increases slightly. But the pressure also increases when he goes into a coordinated turn. Therefore, when he is flying blind, he can very easily confuse turning and climbing. That is why he could be shooting downward in a constant turn and still think he was climbing.

Another faculty that guides a person's sense of motion on earth are the semi-circular canals of the inner ear. But these, too, are confusing when a man is aloft. As a pilot's head rotates, so do the canals, telling him he is turning in a certain direction. But if the pilot rotates his head continuously at a very slow rate of acceleration the canals transmit no sensation of motion. The pilot could be in a slowly increasing turn and think he was flying level.

Also, if a pilot is banking in one direction and he levels off, the fluid in the canals continues to move because of inertia, and the pilot will actually think he has turned in an opposite direction. For a pilot who doubts this, Dr. Brown recommends the following demonstration:

Have a friend in the right seat close his eyes and tell you whether you have turned right or left after the following manuever: Roll the air craft very slowly to the left (at a rate of roll less than 3 degrees per second) until the bank is quite steep; then quickly rotate to level flight. The passenger will say he is turning right at this moment and will be surprised upon opening his eyes to find himself level.

"This helps prove to the airman that physiologically it is impossible to know the earth's whereabouts when you're flying without visual reference to the ground," concludes Dr. Brown. "Instruments in such cases are the pilot's only salvation."

Where to learn

It's not difficult for a pilot to obtain instruction in instrument flying. Many private airports, large universities and state aeronautical agencies offer both ground and in-the-air training in instrument flight. One common educational device is the Link Trainer, an on-the-ground cockpit that simulates instrument flying. The pilot handles the controls and attempts to follow a given route. "It's a great shock to many experienced pilots to discover that in this machine they often go into graveyard spirals and crash," commented J. E. Wenzel, director of

the Illinois Department of Aeronautics. This agency, concerned about the lack of instrument trained pilots, now offers one free hour in the Link Trainer to any licensed pilot in Illinois. "One session is enough to convince many pilots to come back for the full instrument training," reports Wenzel.

The cost of instrument instruction in a dual controlled plane with a qualified instructor runs an average of $15 an hour. How many hours a pilot needs is an individual matter. The FAA in its new regulations has set no hour requirements, but simply demands that the pilot pass an instrument flying test.

One thing is certain, however, the more experience a pilot has with instruments, the safer he will be. Half an education in instrument flying can be disastrous, for the pilot is torn between following his instincts or the instruments and tries to do both at the same time with resultant confusion. Only by constant practice can he educate himself to implicitly trust the instruments and obey them even when they contradict his senses.

Also, a pilot, although once proficient, can forget how it feels to fly by instruments and needs constant brushing up. A long-time jet pilot and former flying instructor says, "I can't emphasize enough the importance of keeping in practice with instruments. I haven't flown for 6 months now and I wouldn't think of getting in a plane without taking one hour in the Link Trainer and two hours in a dual instrument controlled plane. It would be too risky."

One other warning from authorities: Even after a pilot learns instruments, he should not think he is qualified to deliberately fly in bad weather. Only men with extensive experience who have IFR (instrument flight rules) ratings authorized by the FAA can do that. For the ordinary pilot who has a VFR (visual flight rules) rating, instrument training is simply a safeguard with which to extricate himself in emergencies.

Only when a pilot can get out of tough spots through the aid of instruments does he really know how to fly – safely. •

How to dry clean safely

The new do-it-yourself dry cleaning machines that are appearing across the nation are like most other modern conveniences – they are safe as long as you use them properly, but can be hazardous if you're careless.

Dry cleaning machines use perchlorethylene, a fluid that is practically non-toxic, but that is an *anesthetic*. Breathing the vapors can produce dizziness, stupor, unconsciousness and after prolonged exposure death.

This is undoubtedly rare but persons who use the machines should take certain precautions.

Dr 86

For safety, weigh clothes carefully.

• You should never overload the machine. Weigh clothes carefully according to directions. Overloading can prevent clothes from drying properly and in a damp state the clothes can give off fumes.

• If clothes are damp when you remove them from the machine, put them in open air, preferably out of doors, to dry.

• Don't wear damp dry-cleaned clothes or put them on children.

• While transporting recently dry cleaned clothes in a car provide ventilation, especially if clothes are damp or if you notice a strong odor.

Ho 757ch

the Perils of Playing

DISCOURAGED about rocket fuel he was mixing in his basement lab, a teenager in Richmond, Va., called his high school chemistry teacher for advice. The student recounted what chemicals he had used and how he had combined them. "Don't touch anything," gasped the teacher and he quickly notified Fort Lee to send a bomb demolition squad to the boy's home. He had concocted a quart of nitroglycerin.

Fortunately, not all young chemists are so creative. But any boy

Doing self-styled experiments can produce dangerous combinations of chemicals the boy can't control.

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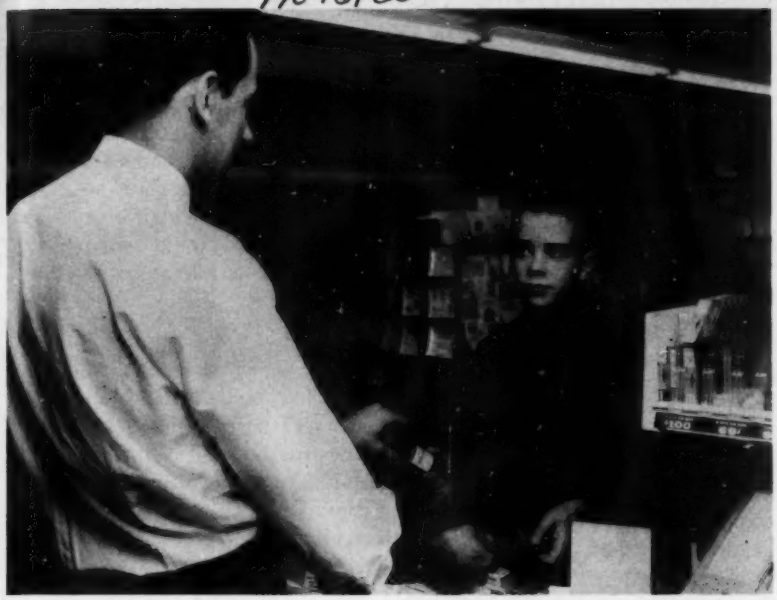
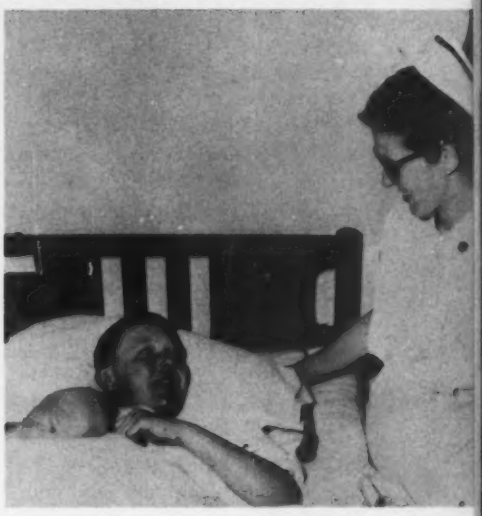


One important pitfall is that in many areas a young chemist can buy potentially-explosive chemicals at drugstores with no questions asked.
Posed photo

Wide World Photo



This 9 year old boy blew off a hand while mixing fuel for a rocket.

CHEMIST

who plays indiscriminately with chemicals can, either by design or mistake, create a dangerous situation. Fumes or vapors of some chemicals are toxic. Other chemicals are flammable or so shock sensitive they can explode from being jarred. Some that are harmless alone become dangerous when combined. And an added trouble is some chemical mixtures are so unpredictable even a seasoned chemist can't anticipate their reactions.

In view of these dangers, a parent may wonder what to do with a boy who is interested in chemistry – and most boys are at one age or another. Certainly, his scientific curiosity should not be stifled, but neither should he be free to seriously harm himself. Is there a middle road? Can a boy handle chemicals safely?

The answer to that is "Yes – sometimes," says Jerry Siedlecki, chemist for the National Safety Council. " A boy who wants to should experiment with chemicals, but within safe limitations. And the parent has to impose these limitations."

No rocket shooting

The number one rule should be no fooling around with chemical fuels for miniature rockets, according to Siedlecki and other authorities. Ever since Sputnik I went up in 1957, kids have been loading and launching chemically powered "rockets" in the name of science. Several rocketeers have been killed and others have had eyes, fingers and hands destroyed by exploding chemicals. The National Fire Protection Association keeps a file on these accidents and reports that they are happening with alarming frequency. For example, this year a 9 year old boy in Philadelphia lost two fingers when a chemically loaded missile exploded in his hand. Two boys in San Francisco suffered severe eye and face burns when a batch of fuel they were mixing with a mortar and pestle blew up. A 13 year old boy in Elkton, Md., died from an explosion caused by his stuffing explosives in a piece of pipe, intended to be a crude rocket.

Chemical fuels are so dangerous that the National Safety Council, the NFPA, the American Rocket Society, as well as many professional rocket engineers have condemned their use by amateurs. Says Samuel K. Hoffman, general manager of Rocketdyne: "I wouldn't

even let my staff of trained rocket specialists try the things some of these kids are doing with rockets. They scare me stiff."

Neither children nor their parents comprehend the extent of the danger, believe experts. Amateurs don't realize how highly explosive a rocket propellant is. Sometimes heating it, grinding it or merely shaking it can detonate it like TNT. This explains why more boys are injured while preparing fuel than while actually launching the rocket – although that is treacherous also. A loaded rocket is essentially a homemade bomb unless it is exceptionally well designed and constructed.

Worst danger

The number one menace in amateur rocketry, as George P. Sutton, former president of the American Rocket Society, sees it is: Kids can so easily buy dangerous chemical fuels. In most areas all a boy need do is present a drugstore clerk with a list of the desired chemicals. Or he can order them through chemical houses or companies advertised in national hobby magazines.

Some druggists, however, because of amateur rocketry accidents, are clamping down on indiscriminate chemical sales to minors. For example, the Maryland Pharmaceutical Association has urged pharmacists in that state not to sell the following chemicals to minors without parent's consent:

Ammonium nitrate, ammonium dichromate, chromic acid, chromates, metallic peroxides, metallic potassium, metallic sodium, nitric acid, potassium chlorate, potassium nitrate, potassium permanganate, powdered aluminum, powdered iron, powdered magnesium, powdered zinc, sulfur, sulfuric acid.

Although this list is incomplete – there are literally thousands of chemicals that could be combined in hazardous preparations – the Association believes these are the dangerous chemicals most often used by amateur rocketeers.

Voluntary refusal to sell chemicals will undoubtedly help cut rocket accidents, but parents must also assume responsibility by absolutely forbidding their children to buy chemicals for concocting fuels.

This does not mean that a boy can't take part in amateur rocketry. He can in a way that is safe and more significant anyway – by designing and constructing rockets, preferably in a club supervised by a competent instructor. There are hundreds of these groups in the country, some organized under the American Rocket Society. They work with mathematics, aeronautics and design but never touch fuel.

The boys may, however, want to see their rocket launched, so they ask a nearby army base to do it for them. Sometimes permission is granted. The boys send their rocket away to a propellant company which loads it and forwards it to the army base. The danger – for the boys at least – is eliminated.

It's up to parents

There's really only one way a youngster can handle any chemical safely, and that's under expert guidance, says Siedlecki. "Most parents, however, aren't qualified to teach chemistry to a child, so they buy him a chemistry set. Then they begin to wonder if the set is safe. The answer is, in general, yes. These sets contain relatively harmless chemicals and explicit instructions on how to use them – an important feature.

"And as the child progresses he can get more complicated sets and eventually work, perhaps, under supervision of a high school instructor in a chemistry club."

But even with chemistry sets there are certain precautions to take. Siedlecki lists these:

• Children under 11 should not have complex chemistry sets. They are too young to understand and safely follow the instructions in the manual accompanying the set. Even children of 11 should start off with a simplified set, designed especially for beginners.

• The young chemist should perform only experiments outlined in the set's instructions. He should never make up his own experiments or haphazardly mix chemicals. He could stumble onto a dangerous combination.

• A child shouldn't be allowed to purchase chemicals not included in the set. When original chemicals are used up, he should buy only the same ones from the same manufacturer.

• The "chemist" should not permit younger children to handle his chemicals. After using the set he should lock it up out of reach. The danger is that they might mix chemicals together haphazardly or eat the chemicals and be poisoned.

• Jars of chemicals should be clearly labeled. If the label comes off a container, the child should discard that chemical immediately and not use it.

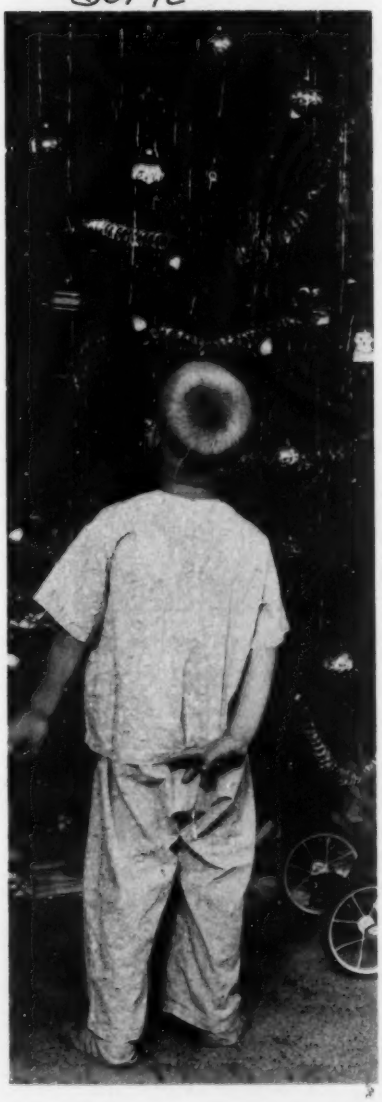
• The young chemist should never taste chemicals and should always wash his hands after working with the set.

• Most important, a parent should supervise the child's experimenting by helping him read and interpret the directions if necessary.

"Obviously, chemicals because of their very nature can harm a youngster," says Siedlecki. "But not if he handles them properly."•

new Christmas hazards

Se14c



THE CHRISTMAS tree was decorated and ready for lighting, so a nine year old girl inserted the light set's plug. But instead of getting a treeful of pretty lights, she got a bulb explosion. The tree went up in flames and so did the better part of the house. The faulty light set had come from Japan and it is not the only imported set to cause accidents. Fire authorities complain that some of these lighting sets do not meet American safety standards and can be hazardous. They recommend that all Christmas tree lights bear the safety seal of Underwriters' Laboratories (UL).

This hazard is just one of several to come on the holiday scene recently. Another as reported by the National Fire Protection Association is the mixing of angel hair and snow spray. Both these items are advertised as nonflammable, and used alone, they are essentially safe, says NFPA. But when they are combined, as for example on a Christmas tree, they become so flammable that only a touch of flame sends them into a burst of fire.

The metallic Christmas tree that's becoming more popular has reduced the fire hazard inherent in old-fashioned pine trees, but has introduced a new one – the shock hazard. Putting lights on these metal trees is dangerous, for should the wiring be faulty the whole tree could come "alive" and electrocute someone touching it. Manufacturers recommend that you place colored spot lights above or at the side of metal trees.

White plastic foam used for ornaments and other Christmas decorations might seem fireproof, but it is not. In fact, it burns easily and an ornament on a tree can be ignited by a spark. Blue-colored plastic foam, however, has been treated with a chemical to make it fire-resistant.

A new gimmick highly advertised for holiday fun is the "dancing mothball." You place moth balls in a colored solution of vinegar and water, then add baking soda which releases carbon dioxide causing the mothballs to jump. Since mothballs are poisonous, this is not a game for children.

Other modern Christmas decorations could also be toxic to small children. Bubbling tree lights contain methylene chloride which if swallowed could cause slight poisoning. Fire salts that produce colored flames on logs have metal bases which could cause vomiting if eaten. And berries on holly and mistletoe contain an unknown poison that produces severe vomiting. The best rule is: Keep dangerous Christmas decorations high out of a young child's reach.

Ho 751f

Teach your children how to throw out a rope ladder and let them practice descending several times.

QUICK WAY TO ESCAPE FIRE

A home fire escape will carry you to safety in a hurry.

Teach your child not to open his door if he smells smoke. He should then shout to wake up others.

YOU SMELL smoke in the night. Fire, the event you weren't expecting and weren't prepared for, has happened. What do you do?

If you're on a second floor you may panic a little, rush to rescue children from other bedrooms and try to escape down a stairway. But no route could be more hazardous. First, flinging open a bedroom door and diving into a hallway could be disastrous. Hallways fill up with rising hot gases and smoke that could fell you in an instant. Second, your chances of fleeing down a stairway are very slight. These act as chimneys for upsurging smoke and are the first parts of homes to be flooded with deadly gases and heat.

There's really only one dependable way to get out of a second story during a fire—and that's through a window. Obviously, this type escape requires a means for reaching the ground. Jumping is no good for some people in their panic refuse to drop and will dash through flames to find a stairway. Also, a fall of some 15 feet could break

If a window sticks, a child should know how to use the legs of a chair to knock out window glass and screens, and how to use a shoe to clean off remaining glass.

Have everyone practice the correct way to go out a window. First, throw a leg over the sill and back out; never go out head first. Hold fire drills several times.

Photos, Republic Steel Corp.

bones and lead to death, especially for young children and the elderly.

A porch or sturdy trellis outside your house might provide a makeshift escape. But these are difficult to descend, and are effective only for the agile. Your best bet is a fire escape ladder – either portable or permanently installed.

Several styles of these ladders are available. One is an inexpensive rope ladder (about $15) that in an emergency you can attach to a hook below the window sill and toss out the window. This rope type is especially right for children old enough to climb, but it may be a little unsteady for older persons. A sturdier metal ladder, costing $50 and up, may be better in this case.

One aluminum portable ladder works the same way as the rope ladder. It is lightweight, attaches to a hook and can be thrown from the window. The difference is that when it unfolds, spikes come out and press against the house frame. These prevent the ladder from swaying when a person descends.

Another aluminum type is permanently installed and folds into what looks like a rain spout outside your bedroom window. In case of fire, you simply press a control button from your bedroom and the ladder pops out. You need only step onto the ladder and climb down. There is a control button also on the first floor in case a person trapped upstairs in fire should panic and fail to open the ladder.

There are many varieties of escape ladders and cost varies according to design and manufacturer. However, you should be able to get one within the range of $15 to $75. Third floor ladders for apartment buildings are also available at an added cost.

After you obtain a ladder, practice using it several times so you will know exactly what to do. It's especially important to show children how to get out the window, throw out the ladder and descend. These preparations could be lifesaving should you ever be one of thousands this year who will awake to the dreaded smell of smoke in the night.•

WHERE TO BUY LADDERS

Listed below are some companies which have fire escape ladders for homes.

Anchor Blasting Mat & Rope Co.
245 East 32nd St.
New York 16, N.Y.
Portable rope ladders

Coolman Industries
201-202 Whitker Bldg.
Ann Arbor, Mich.
Permanent metal-drain-pipe type

Hammacher Schlemmer
145 East 57th St.
New York 22, N.Y.
Portable rope style

Lum-A-Scape Products Inc.
1001 Ridge Ave.
Pittsburgh 33, Pa.
Metal-drain-pipe ladder

Marryatt, Lane & Co. Inc.
234 Goodwin Ave.
Paterson 1, N.J.
Portable, heavy-fabric and metal type

State Wide Home Products Corp.
5713 Euclid Ave.
Cleveland 3, Ohio
Portable all-metal type

The Roy Bernard Co. Inc.
635 Madison Ave.
New York 22, N.Y.
Metal drain-pipe style

A DOCTOR'S WARNING: watch what

AT A MEETING recently several pediatricians including myself deliberately pulled apart half a dozen baby pacifiers that we had bought at a dime store. The awful fact was that the pacifiers came apart with amazing ease. The nipples tore off; they were merely stuck on the end of a plastic stick. The small rings that prevent a baby from jamming the device down his throat slipped off with no trouble. The tiny doughnut-like handles dropped off. When we were finished the table was littered with small objects, any one of which could be deadly to a baby.

Our experiment was not for fun. It was to verify reports from other doctors that pacifiers like these are so flimsily constructed they are dangerous to the baby who sucks one. In a short time, three pediatricians have reported removing parts of pacifiers from babies' throats. Apparently the babies jerked apart the pacifiers and swallowed the pieces. Fortunately, all victims were saved, but they could have died.

I'm not condemning pacifiers; well-constructed ones can be safe. I'm merely illustrating a hazard that is a constant threat to babies – the small object. From birth a baby begins to stuff everything he gets hold of into his mouth. Many objects proceed harmlessly through his digestive system and are excreted. Others may lodge in his throat causing him to choke. Extra small ones can be inhaled into his lungs with serious consequences, perhaps death. Sharp objects, including pins, can puncture membranes and organs.

Some objects, if not removed, can lead to serious diseases. I once treated an infant for a mild respiratory infection, but three months later he was brought back with pneumonia and severe laryngitis. X rays soon revealed that the source of his trouble was a nickel stuck in his esophagus behind the larynx. Only then did his mother remember that he had suffered an unexplained coughing fit just before she brought him to me the first time. After the obstruction was removed, he recovered.

Around the clock alert

Parents with children under three must be on the perpetual alert for the small object – and this is sometimes difficult. Every mother can spot the danger in pins, coins, marbles, and such, but other small hazards are so well concealed that it takes an ingenious, determined and often times destructive mother to uncover them. For example, the pacifiers mentioned before appeared to be safe *when they were in one piece.* But the problem is that under a baby's persistent pulling an item will not necessarily stay in one piece. If there is anything to come off a baby will find it out and much more quickly than we doctors did.

Of prime danger from this standpoint are toys. Any toy that can be disassembled is a threat. A baby if given a chance will break his rattle and eat the stones inside; he will swallow the bell and eyes from his stuffed teddy bear; he will break the string of beads across his crib and gobble them up. As chairman of the National Safety Council's toy safety committee, I have seen reports of dozens of accidents like these. Parents write us about them year round. Here is just a sample of many letters we have received from people complaining about removable parts on toys:

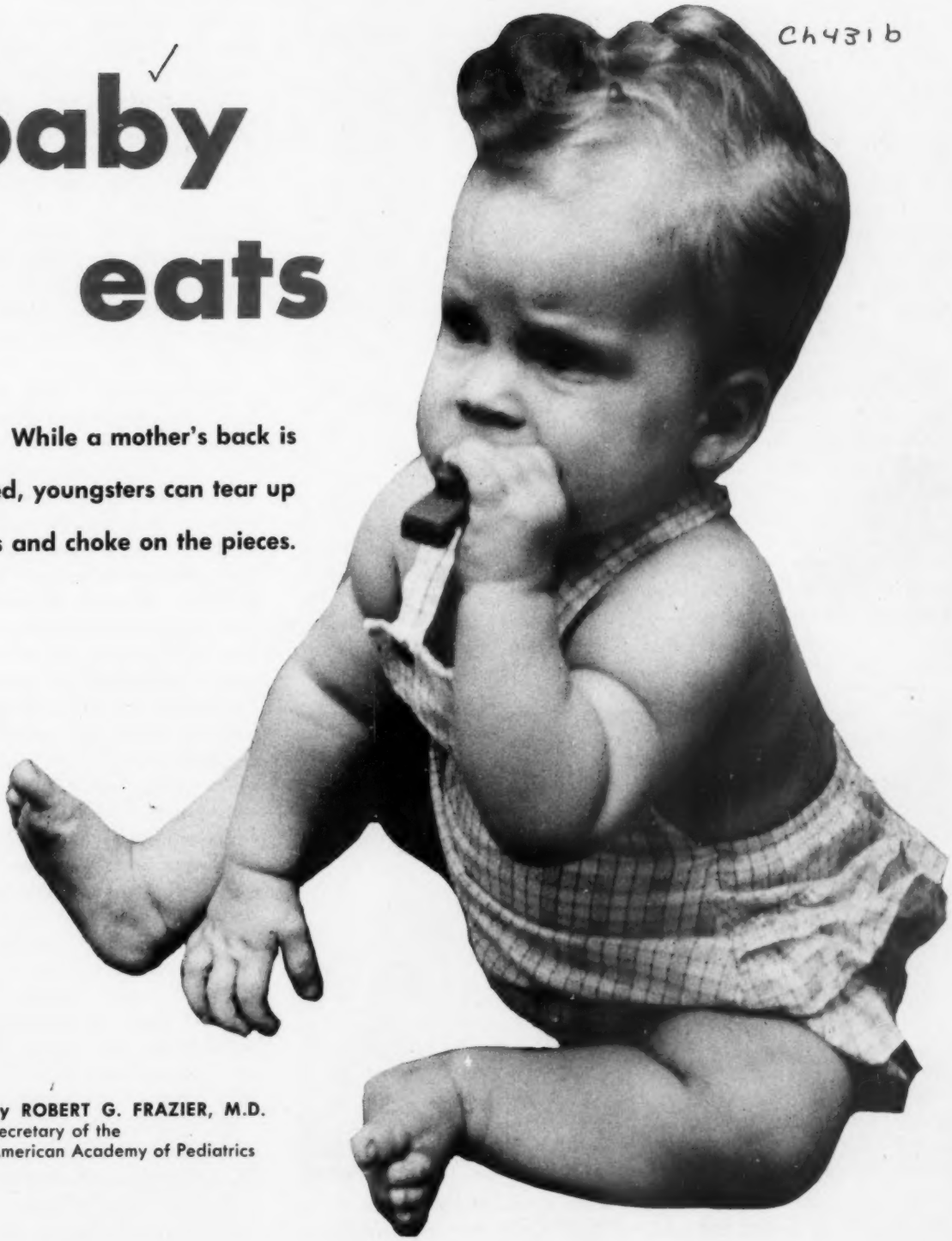
"When our daughter was about 20 months old, her grandmother gave her a musical bunny, purchased for $2.98. The child was on her back, holding the bunny above her and winding the key. It dropped into her open mouth and became lodged in her throat. She was taken to the hospital emergency room, as she was choking, turning blue and vomiting. The key finally fell from her mouth." – Mrs. R. D. N., Sparta, Wis.

"On my little girl's first birthday she received a little tin horn. Suddenly, I heard my baby choking. I looked at the horn and found that pieces of metal which made the noise were gone. We rushed to the hospital and X rays showed one piece of metal, 1 inch long and ½ inch wide stuck in the tube between

Ch431b

baby eats

While a mother's back is turned, youngsters can tear up toys and choke on the pieces.



by **ROBERT G. FRAZIER, M.D.**
Secretary of the
American Academy of Pediatrics

her throat and stomach. The metal was safely removed by a specialist. This tin horn cost 10 cents, but we paid $185 to have it removed, not to mention anxiety and worry involved." – Mrs. G. B., Napa, Calif.

"I put my baby to bed with his teddy bear one evening. After half an hour I went in to check and found him holding a long hat pin about 3 inches long. The head of the pin was the bear's eye. It was very fortunate I caught this in time. I consider it criminal negligence for toy manufacturers to make toys with hidden dangers." – Mrs. C. R., Orange Park, Fla.

"My young nephew, 2 years old was given a metal fire engine with rubber tires, held in place by a tin hub cap about the size of a penny. Within four hours the hub cap came loose, the child got it in his mouth and the prongs imbedded themselves in the roof of his mouth. A doctor worked half an hour to pry the hub cap loose from the child's mouth." – Mrs. G. P., Elkridge, Md.

Luckily, these cases ended happily, but I've heard of others that didn't.

The point is that you should never give a baby any object that can come apart into pieces small enough to swallow. If you are in doubt about the durability of any item, give it a few earnest tugs or bangs. If it comes apart, it is certainly a hazard – and it's better that you found out than your baby.

Toys without frills

As far as toys go, large soft balls, blocks with round corners and stuffed animals with *painted* features are good. Embellishments such as bells, pom poms and button eyes should be taboo. And that rule applies to clothing as well as toys. A couple of years ago a manufacturer came out with booties, each having a small round rattle on its toe. Pediatricians spotted the hazard, but too late for one proud 7-month old owner. He got one of the rattles loose in his mouth and choked to death.

So far I haven't said much about the object that in its entirety is too small for a baby to handle. Of course, this type item (pins, tacks, buttons, beads, peanuts, coins) is a hazard also, although a more obvious one.

Keeping these from a baby requires sheer care. First, you should never set any small object where a baby could pick it up. You can't even put down a pin beside a baby when you change him. Although this seems common sense, mothers do forget, and safety pins – sometimes open – show up inside children regularly.

Purses, sewing baskets, piggy banks and the like contain innummerable tiny objects that a child could consume. You should hide these or put them high out of a child's reach.

Before putting a child on the floor to play, search the area for tiny objects. And never pacify a young child by giving him peanuts, popcorn or candy with nuts, for he can easily get these down his windpipe. Even letting a child run around the house while eating a cracker can be dangerous; if he falls he might inhale the dry crumbs and choke.

One last warning which is especially appropriate at Christmas shopping season: We pediatricians hear numerous complaints about miniature toys – things like balls, jacks, marbles, toy soldiers and especially tiny rattles that a baby can wedge in his throat. Such items are treacherous because they are small enough to go in the mouth, but too large to be swallowed; hence they stick in the throat and cause violent choking. One mother, for example, left a baby playing happily in his crib with a tiny bone-shaped rattle, and when she returned several minutes later he was dead with the rattle jammed in his mouth.

But tragedies like this or close calls need never happen – if you're constantly vigilant and keep the small object where it belongs – far from a baby's grasping hands.•

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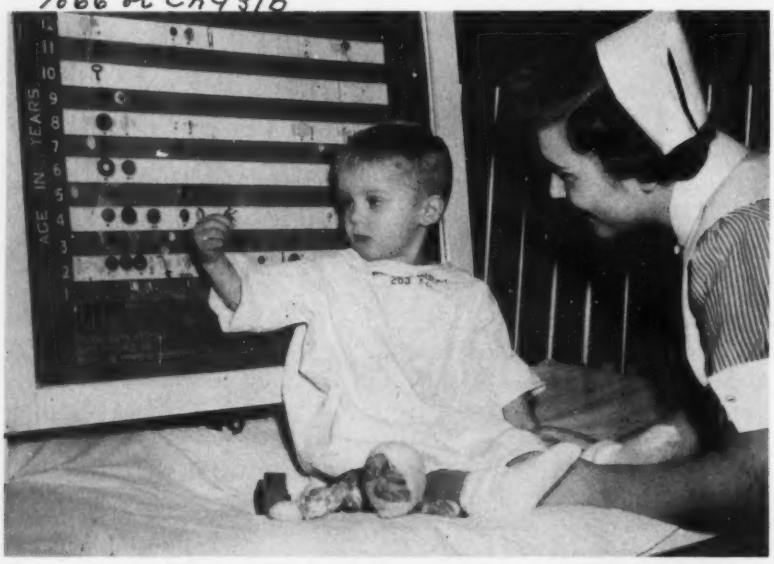
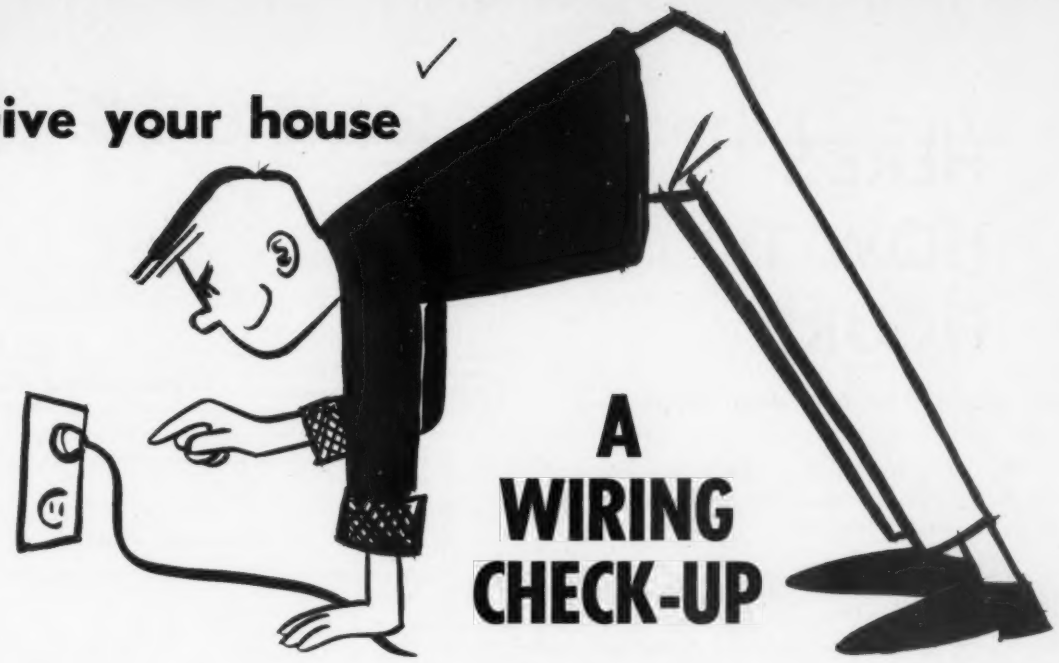


Chart displays a variety of items extracted from children at one hospital. Boy in the picture had a toy soldier removed from his esophagus.

Give your house A WIRING CHECK-UP



CHANCES ARE your house is inadequately wired. Four out of five houses are, according to wiring experts. If your house is five years old, it may be underwired; if it was built before 1940 it most certainly is unless you have rewired. For you are probably using twice as many appliances now as you did then.

Electrical drain can overload wires and send your house up in smoke. Wires, forced to carry heavy loads of electricity, become as red hot as those in a toaster. Eventually these heated wires leave wood and insulation between walls tinder dry. One day the hot wire may spark a smoldering fire that remains unnoticed for days, then unexpectedly bursts forth.

And the danger is very real. One in eight fires is of electrical origin.

Think of your wiring as being similar to water piping. Regardless of how much water pressure there is, you only get a small stream from a small pipe. Wires are much the same way. How much electrical energy a wire can carry is limited by the wire's size. When you plug several appliances in one circuit, you make the wires on that circuit carry loads too large for their size. Their only recourse, as Edison knew when he invented the light bulb, is to become hot and light up.

Every house needs three kinds of circuits: (1) General purpose circuits for lights and small appliances such as radio, clock and vacuum cleaner. These items take little electricity and several can operate from one circuit. You should have one circuit for every 500 square feet of usable floor surface and if possible one for every 375 square feet. This allowance helps meet future needs. The number of circuits in your house is shown by the number of fuses in the box or number of switches on your circuit breaker.

(2) Appliance circuits for convenience outlets in the kitchen-dining area. These take appliances such as toaster, coffee maker and mixer.

(3) Separate circuits for each item of fixed equipment such as range, automatic washer, air conditioner, dishwasher, food freezer. These require so much wattage that each must have a circuit (sometimes two) of its own.

If your wiring is over-burdened, you will probably see several signs. Fuses blow frequently. Toasters, coffee makers and broilers heat slowly. Lights will dim when other appliances are used. The TV screen shrinks or flickers. The radio fades and sounds scratchy. You have to disconnect one appliance to plug in another. You have octopus outlets or long extension cords.

You can determine whether your house is wired adequately by checking the wattage on each circuit as shown on the following page.

If this check-up shows your house is dangerously underwired, call a local electrician who will tell you what needs to be done. Until you do, you won't be free of the worry that potential fire is present in your house.●

For instructions on how to test circuits in your house, see next page →

HERE'S HOW TO FIGURE

An example for a 15 amp. circuit. →

Light or Appliance	Location of Outlet	Number of Watts
Sandwich Grill	Kitchen – Over Work Counter	960
Radio	Kitchen – South-West Corner	30
Food Mixer	Kitchen – Over Work Counter	130
Should not exceed 1800 or 1400 if appliances have motors.	TOTAL WATTS	1120 Safe!

You can tell whether a circuit is overloaded by adding up the wattage of the appliances you use on that one circuit. Here's how:

1. Find out which appliances are being used on which circuits. To do this, turn off the house's electricity by standing on a dry board and pulling the main switch. Then remove one fuse and turn the power on again. If you have a circuit breaker, simply turn off one breaker.

2. Test each outlet with a small light or other small appliance. Outlets that don't operate the light or appliance are on the defused circuit.

3. Note all the appliances that you use on this circuit *at the same time*, then record the wattage of each. Bulbs and some appliances are marked to show the number of watts they consume, for example, 100 watt bulb. Other appliances, however, may be marked in amperes, such as 1.1 amp., 2 amp. To convert these amperes roughly to watts, multiply by 120. Hence an appliance marked 2 amps would take 240 watts. For appliances not marked use the chart printed here.

4. Now add up the total wattage for each circuit. A general purpose circuit can carry 1800 watts safely or 1400 watts if appliances have motors. If your total is more than this, the circuit is overloaded. (Note: there are exceptions in some houses built within the last 20 years. These may have appliance circuits that can carry 2400 watts or 1920 watts with motors. Such a circuit would have a 20 amp. fuse instead of the usual 15 amp. But be sure you aren't using a 20 amp. fuse for a 15 amp. circuit.)

5. Repeat these steps for each circuit.

WATTAGE CHART

These represent average wattages. Appliances vary according to size and make.

Room Air Conditioners	
½ Ton	880
¾ Ton	1255
1 Ton	1540
Aquarium Aerator	50
Aquarium Heater	up to 250
Blanket	175
Blendor	275
Bottle Warmer	440
Broiler	1400
Casserole	510
Clock	2
Clothes Dryer	4760
Coffee Maker	up to 1000
Corn Popper	440
Dehumidifier	185
Dishwasher	1325
Door Chime	15
Dry Iron	1025
Egg Cooker	440
Fans	
Floor Circulator	120
Attic	345
Kitchen Exhaust	75
Portable	50
Floor Polisher	475
Food Freezer	up to 460
Food Warmer	310
Fry Kettle	1300
Frying Pan	1085
Food Mixer	130
Hair Dryer	415
Heat Lamp	250
Heater	up to 1650
Heating Pad	60
Heating Equipment	
Warm Air	
Furnace Fan	320
Oil Burner Motor	230
Humidifier	185
Ice Cream Freezer	115
Ironer	1455
Knife Sharpener	50
Odorizer	11
Pressure Cooker	1400
Power Tools	up to 1000
Projector	300
Radio	30
Range	up to 23000
Recorder	95
Record Player	50
Refrigerator	230
Roaster	1320
Sandwich Grill	960
Sewing Machine	75
Serving Tray	600
Shaver	11
Steam Iron	1040
Sun Lamp	275
Tea Kettle	550
Toaster	1130
Trivet	50
TV Receiver	205
Vacuum Cleaners	
Bag Type	340
Canister Type	725
Tank Type	555
Hand Type	310
Vaporizer	385
Waffle Baker	960
Washer	
Automatic	400
Non-automatic	380

Use These Sheets To Check Circuits

Light or Appliance	Location of Outlet	Number of Watts
	TOTAL WATTS	

Should not exceed 1800 or 1400 if appliances have motors.

Light or Appliance	Location of Outlet	Number of Watts
	TOTAL WATTS	

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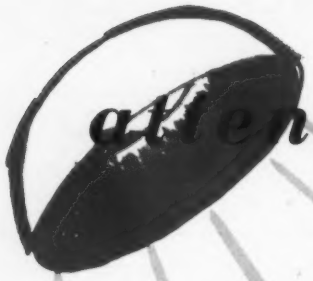


attention, SUNLAMP B

Lamps, like the sun, can damage skin and

FOR MANY Americans it's time to glance sadly in mirrors and mourn the passing of a summer tan. For others, determined to keep a bronzed skin year round, it's time to haul out the sunlamp.

Indoor sunbathing is a nationwide ritual followed by millions of people, as proved by the fact that manufacturers sell half a million sunlamps every year. Most of these find their way to the north so men and women alike can show up in snow-covered office buildings looking as if they have spent the week-end in Jamaica. But a surprising number of lamps go to the sunshine states of Florida and California so residents can get that expected tan without bothering to visit a beach.

Some sunlamp users are successful and obtain coffee colored skin; others, less persistent, get pink cheeks, and of course some bathers end up with blistering burns. No one knows how many persons get lamp-burned every year – the majority of burns, being minor, are never reported to doctors. But doctors do know that artificial sunburns can be as serious as the real thing and sometimes even more so.

Here is a classic example: A young girl one evening lay down for a 15-minute session under a sun bulb that fitted into an ordinary lamp. She set an alarm clock and placed it on the bed beside her, but it never went off. Evidently, as she dozed, she rolled over on it, pushing in the alarm lever. She awoke four and a half hours later with the bulb still blazing down on her.

She didn't feel burned, only a little warm, so she went back to sleep. The next morning the skin on her arms, chest and face was red and slightly swollen. She applied lotion. By afternoon her skin was so fiery she could hardly bear the touch of clothing. She went to a doctor and he rushed her to a hospital.

She stayed two months. The skin on her face and shoulders puffed up, turned black and fell off. The pain was so great that for days she was kept under morphine. Plastic surgeons managed to patch up her badly scarred face, but she still carries slight marks on her arms. "You suffered first, second and third degree burns," her doctor told her. "And your skin has been irreparably damaged. When you're 40 you'll look 80."

This case illustrates what many persons fail to realize – that a sunlamp is a powerful heat source, similar to the sun. Sitting four feet away from a sunlamp is like sitting under a high-noon sun on a summer's day. Both the lamp and the sun give off ultra violet rays that produce burning and tanning.

"Too much ultra violet from a sunlamp is the same as too much ultra violet from the regular sun," says Dr. Joseph B. Jerome, secretary of the American Medical Association's Committee on Cosmetics. "Everyone knows that overexposure causes erythema (reddening) which can be painful. But there are other dangers too. We know that ultra violet is associated with skin cancer. The rays stimulate cells to divide and sometimes the cells 'forget' to stop, thus becoming cancerous. It's likely that this could happen from any ultra violet source – either the sun or lamps. Of course, only a person subjected constantly to large amounts of ultra violet is in danger. For example, farmers who work under sunlight are frequent victims of skin cancer.

"Ultra violet also harms the eyes – even when they are closed, adds Dr. Jerome. "The skin of the eyelids is the thinnest on the whole body and the light can go

P BATHERS

skin and eyes. Here are safety tips.

right through causing sunburn of the eyes. A common symptom of a person sitting under a sunlamp is swollen eyes. I've seen many of these. In such cases, vision could be damaged."

Research also shows that the light from lamps may be more damaging to eyes than that from the sun. Says authority Dr. W. W. Coblentz: "There seems to be no means to prevent the exploitation of the public by the sale of 'so-called sunlamps' that emit ultra violet radiation of wavelengths shorter than 2,900 angstroms (not present in sunlight) and which are dangerous because they produce conjunctivitis (inflammation of the inner lining of the eyelid) and with excessive exposures may cause cataract."

Because of these dangers, doctors warn that a person using a sunlamp should be as cautious, if not more so, than when he lies under ordinary sunlight. Here are their suggestions for sunlamp bathers:

• Don't stay under the lamp long.

The skin is tender until it becomes toughened by repeated doses of ultra violet. Many manufacturers include a chart of exposure times with their lamps and you should follow these exactly. For those who don't have a chart, here is one recommended by the AMA. It shows maximum exposure times at a distance of four feet from the lamp.

Basic Skin Color	Minutes of Exposure to Sunlamp				
	Initial	Second	Third	Fourth	Subsequent
Light	15	20	25	30	Based on redness and
Medium	20	25	30	35	tenderness

• Always use a timer.

Under the warmth of a sunlamp many persons are inclined to go to sleep or not notice the passing time. And they don't realize they are burning for there's no discomfort; the burn does not show up for a good six hours. Also, unlike the sun that lessens in burning power as the day passes, the lamp stays at "high noon" indefinitely until it is shut off.

Therefore, a timer is essential. More expensive lamps come with timers that can be set to automatically turn off the lamp after a certain time. Such lamps are obviously the safest. For less expensive lamps and bulbs that aren't so equipped, you can buy at a hardware store an inexpensive timer that rings to awaken you. A timer on a kitchen stove might also do if you are sure you are close enough to be awakened by it. An alarm clock is okay too – if you place it where you can't possibly knock it over.

• Protect the eyes.

This is so important that some lamps are accompanied by special goggles that filter the harmful ultra violet. If you don't have these, cotton placed over the eyes is your second best bet. This is thick enough to keep the rays from penetrating. Ordinary sunglasses offer less protection, but are better than nothing. In any event, never stare into a sunlamp.

The important rule is, according to Dr. Jerome: Have as much respect for the sunlamp as you do for the sun and you won't get burned.•

Mo852res

UPI Photo

If you are

Trapped In A Sinking Auto

IF YOUR car ran off the road into deep water, how would you escape? Here are pointers, gleaned from recent tests conducted by the Red Cross, Indiana University and the Michigan State Police and Highway Department.

The group made 53 submersions in a water-filled pit at Williamston, Mich., using six older model and two 1961 vehicles. No passengers were used. The plunges were made from heights of 2 to 20 feet and at speeds from 5 to 16 miles an hour into 12 feet of water. Most of the tests involved dropping the vehicles, all front-mounted engine passenger cars, from ramps into the water, wheels down. However, some were dropped on their sides or tops. The tests showed:

• The best way to escape is through a window while the vehicle is afloat. A passenger car will float four to eight minutes before submerging if windows are closed and if it is undamaged by the impact of the plunge. Floating time also depends on how tightly the vehicle is constructed.

• If you can't get out before the vehicle submerges, get to the rear of the car. Because of the heavy engine, a car usually noses downward and leaves a pocket of trapped compressed air in the back seat or trunk area. If the car levels on a river bottom, the air pocket moves to the roof of the passenger compartment above door and window openings.

The size of the air pocket depends on the position of the car, the roof design of the car and whether the glass area has remained intact. However, opening doors or windows of the submerged vehicle does not decrease the size of the air pocket.

• It is difficult to escape through an open window while the vehicle is submerging because of the pressure of inflowing water. You can't open doors on submerged cars until the water pressure equalizes inside and out. However, you can get out through doors after submersion if the car was not damaged on impact. If windows are undamaged, you can roll them down any time.

• The rear window is your best means for escape in a floating car. You can knock out the glass, which is usually the tempered type, by striking it with a hard object such as hammer or center punch.

• If you're trapped in a station wagon, try to escape through the tail gate if it can be manually opened from the inside.

Those conducting the test also agreed that a fastened safety belt will increase your chances of surviving the initial impact in the water.•

Quick tire repairs

Something new, mostly for the feminine motorist: instant tire repair gadgets that supposedly seal and inflate punctured tires in a jiffy. But do they really work? They are probably effective in an emergency, but cannot be depended on for a permanent repair, concluded Consumer's Research after testing one brand that sells for $4.95.

The product comes in a cylinder can with a 5 inch tube which you attach to the flat tire's valve. You then shake the can, causing the sealant it contains to flow into the tire. CR's men did this and reported that a nail-punctured tire swelled to 21 pounds pressure, safe enough to carry the car to a service station three miles away. There the tire was inflated to normal 26 pounds pressure and driven for 60 miles after which it went flat.

Advice from the testers: After using this instant repair device for an emergency, head for a service station and get a permanent repair.

• • •

Beware the pork "bug"

Don't think that pork bearing the stamp "U.S. inspected and passed" means that the meat has been inspected for trichinosis, for it has not, according to the *Journal of the American Medical Association.* The U. S. Department of Agriculture, unlike those of other countries, does not examine pork for presence of the parasite that carries trichinosis to man. As a consequence, our country's incidence of the disease is three times that of all other countries put together.

The trichinosis "bug" goes from pork to man's stomach, then to his muscles, causing nausea, cramps and muscular tiredness. The only preventive is to cook pork thoroughly to destroy the parasite.

Bats are dangerous

Beware of bats, for they are infamous carriers of rabies, warns Dr. Herman E. Hilleboe, New York State Health Commissioner. The danger, new to this country, is growing steadily, he says. At least 200 persons have been bitten by bats since 1953 and five of these victims have died.

Here are precautions:

• Never handle any bat, especially one on the ground or one that acts "sick" or otherwise abnormal. Strange behaving bats are probably infected, but even healthy bats, unlike other animals, can carry the rabies virus in their saliva.

• If you are bitten by a bat, go immediately to a physician who will decide whether to give you the series of anti-rabies shots.

• If possible, catch the bat and take it to your local health officer who will have it examined for rabies within hours.

• • •

A little is too much

As little as a tablespoon of salt could kill a baby, warns the American Academy of Pediatrics. The danger comes when mothers administer salt to help cure baby's ills or when they mistake salt for formula ingredients. A little salt given under doctor's directions may be beneficial, but beware an overdose and don't prepare formulas in the dark, says the Academy.

• • •

How to spot bad brakes

How do you know if your automobile brakes are going bad? Here are the danger signs that could cause disaster, according to the National Safety Council's magazine *Traffic Safety.* Brake pedal goes closer than two inches to the floor when you bring the vehicle to a full "crash stop."

Brakes "grab," pulling the vehicle's front to one side. This means brakes on one wheel are not operating properly.

Brakes give out a scratchy, metal-to-metal sound, which indicates linings are worn and rivets are hitting the inside of the drum.

Pedal is "mushy" – that is, it holds at one level, then abruptly drops down farther. There is probably air or moisture or both in hydraulic lines.

If you notice any of these defects in your brakes, have them repaired immediately, advises *Traffic Safety.*

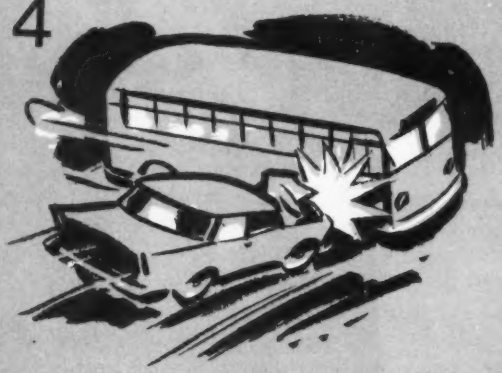
COULD YOU PREVENT T

Most accidents you as a driver can prevent. A few you cannot. How do you judge these—preventable or not preventable? Your guide should be not whether you are at fault, but whether you could do anything to avoid having the accident.

1

A car spurts by you in an underpass and cuts in about three car lengths ahead. A second car also passes you and pulls in between you and the first car. The driver of the first car, seeing deep chuckholes, brakes suddenly and is smashed in the rear by the second car. You brake, too, but are trapped. You can't swerve left because of oncoming traffic, nor right because of a bridge abutment. You plow into the wreckage.

4



Just as you approach an intersection at reasonable speed, the traffic light flashes from green to amber. Thinking it unwise to make a quick stop, you proceed and hit the side of a bus whose driver is later cited for running a red light.

5

A dump truck that you are following on a two-lane highway slows down, signals for a right turn and completes it onto a rural road. As you go by, the truck makes a sudden U turn, comes back on the highway without stopping and hits the rear fender of your car.

THESE ACCIDENTS ?

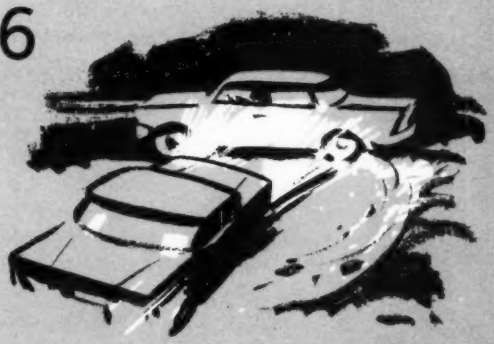
2

You are approaching an intersection in the east-bound lane of a two-lane highway. Coming toward you from the west is a vehicle that veers into your lane as if to make a left turn, but instead heads straight for you. You slam on the brakes and sound the horn. You can't go off the right side of the road because of a deep ditch. The other car keeps coming and smashes you head on.

3

At night on a dry highway you come up behind a creeping vehicle and blink your headlights as a signal to pass. As you move into the passing lane, still 50 feet behind the vehicle, it makes a sharp left turn into a private driveway without giving any warning. You pull right, but can't avoid striking the vehicle's left side.

6



On a snowy night you are traveling 35 m.p.h. on a superhighway that narrows into a two-lane road glazed with ice. In your headlights you spot a car that has skidded and stopped across your lane just 35 feet ahead. You try to stop without skidding, but cannot and smash solidly into the car's left side.

ANSWERS:

1. Preventable. A trap like this would be of your own making. The minute a car passes, you should drop back to leave adequate room for stopping. Failure to do this for both first and second cars would put you in a hazardous position, making it impossible for you to stop in time to avoid crashing.
2. Non Preventable. It's almost impossible to avoid collision in this case. About the only things to do are brake and sound the horn.
3. Preventable. Although the other fellow would be legally wrong, you should avoid such an accident. One, a slow vehicle on a highway should alert you to expect sudden movement. Two, blinking headlights are not an adequate signal for passing. (A horn is better.) Also, you should always hang back to be sure the other driver recognizes your signal and realizes your intention to pass.
4. Preventable. Again, the other driver would be at fault, but you could avoid collision. Intersections are hazardous areas and you should keep your foot poised over the brake pedal and look both ways even though the light is green. Good defensive drivers do not depend on the green light to guarantee right-of-way.
5. Non Preventable. There's nothing you could reasonably do to prevent this one, for you would naturally assume that the turning truck had proceeded down the side road.
6. Preventable. A narrowing roadway plus bad weather warrants extra caution, including slower speed that would enable you to drive within the range of your headlights and stop safely in an emergency. In other words, if you get caught in this type accident you are traveling too fast for conditions.

Readers Talk Back

Congratulations!

Your fall issue of *Family Safety* is tops — especially the article "Should Your Boy Play Football?"

EARL EDWARDS, Manager
Chattahoochee Valley Safety Council
West Point, Ga.

Family Safety magazine has certainly made a hit with our employees with its timely coverage of varied subjects. This magazine has received more favorable comments than any previous literature distributed to our field locations.

JOHN BIRDSONG
Regional Safety Supervisor
Halliburton Co.
Duncan, Okla.

Please make *Family Safety* available on magazine stands throughout the country.

You would be amazed at the real interest shown in this magazine by everyone to whom I show my copy which my employer gives me. They ask if I can get them a copy—how often does it come out —how much does it cost—where I get it—may I have your copy when you have finished? My wife gets my copy and after showing it to her close friends, sends it to our married daughter. The company simply cannot supply the entire community nor even all of its employees.

Congratulations on the most excellent form of safety literature that I have ever encountered.

A. G. MEAKIN
Baton Rouge, La.

Hazards missed

In the article "What's Wrong At Home?" in the fall issue, picture number 7 shows a man filling his power mower with gasoline. The caption on the next page points out two hazards present in the picture, but there are at least three more. First of all, the man is not using a UL approved safety can to store his gasoline. Secondly, he is apparently fueling the mower in the garage. Wouldn't it be better to go outside? Thirdly, even if no explosion or fire occurs, the child should not be there during the fueling or mowing operation. Spilled gasoline can be very irritating to tender skin and could be soaked up by her clothing.

DURAND C. YOUNG
Executive Secretary,
Sioux Falls, S. D. Safety Council

More about lead poisoning

I would like more information on lead poisoning. Our children have never chewed furniture, but have chewed other things with paint. Could you tell me if the paint on the following articles contains substantial amounts of lead: children's painted balls, toy metal cars (made in Japan and U.S.) band aid cans, and picture post cards.

MRS. C. J. BREZA
Smithsburg, Md.

Most toy manufacturers today use non-lead based paints on their products. This is also generally true of such items as band aid cans. However, even though the items mentioned may not contain any lead in the paint, it would be a wise precaution to prevent your children from chewing items of this type in case they may eventually chew something which is painted with a lead base paint.—Editor.

Football's not that bad

The picture that is painted in your article "Should Your Boy Play Football?" (Fall, 1961) is enough to scare any parent half to death, especially parents who know very little about the sport.

The five questions that are discussed are definitely related to sandlot football and a very small minority of the high schools. Every state has a league or association which administers rules for participations in athletics and are very strict about it. The entire article sounds like something written in the early nineteen hundreds.

Most of our educators today are sold on the values of football in the school program. Taking all things into consideration, including the small calculated risk of an injury, the values that a boy receives from playing football far out weigh the few sacrifices he makes to play.

Your magazine is a fine publication and I'm sure helps cut down on family accidents, but of the 90,000 people who read the red-lettered headlined article on football there are going to be some mixed up, scared parents.

CARL L. PLUM
Football Coach
Central High School
Woodstock, Virginia

See your dentist!

We were somewhat disappointed that your very interesting and informative article "Should Your Boy Play Football?" in the last issue of *Family Safety* did not contain more information about mouth protectors.

We should like to emphasize for parents that all mouth protectors, whether of the mouth formed latex and flock variety or others, should be custom-made and fitted by a dentist.

CHARLES A. FRENCH
Assistant Director
Bureau of Dental Health Education
Chicago, Ill.

Safety's Lighter Side by TOM DODDS

J.F.K., BE CAREFUL! . . . Rocking chair expert Professor Rixley of the University of Edinburgh, who rocks one hour a day "to cure hypertension," rocked too vigorously and tipped. There was no report as to the state of his hypertension, but he did suffer a lacerated ear and a fractured ankle.

Police Chief John Paladino of Jamestown, N.Y. writes a weekly column in the local paper. He calls it: "Don't Drive Yourself to Death."

WHAT'S IN A NAME . . . A head-on is usually associated with an automobile collision, but in Stratford, Ontario, they look for a Head-on after the crash. A. Headon is an auto mechanic in the Canadian city.

A Philadelphia family of four escaped to safety when a fire in their home sounded its own alarm. They were awakened by the constant ringing of their front door bell, found the house filled with smoke and fled. Firemen said the blaze apparently caused a short circuit in the bell wiring.

A GOOD TRICK . . . In his syndicated column, Hal Boyle tells of this sign seen along a highway: "Danger! To touch these wires means instantaneous death. Anyone caught doing so will be prosecuted to the full extent of the law."

Chris Ennis, 6, took a bite of his father's ice cream bar. Then his father, a Trenton, Ohio, police sergeant, took it back and swallowed a sizeable portion although the boy cried, "Wait, daddy!" Asked what was wrong, Chris said, "Never mind now, daddy, you've already swallowed my loose tooth."

THE FAR EAST . . . A Tokyo taxicab company has ordered its drivers to attach photographs of their wives to their cab windshields. "We believe they'll drive more carefully if reminded of loved ones," commented a company spokesman.

SNAKES ALIVE . . . A Pinckneyville, Ill. woman's thirst was quenched in a hurry when, as she started to fill a glass with tap water, a 12-inch snake wriggled from the faucet in her home.

In a recent talk, Gov. Ernest F. Hollings of South Carolina said: "A traffic law violation, unlike most other crimes, is a crime of impulse, not premeditation. A man who wouldn't think of stealing your wallet will steal your right of way."

SOMETHING TO THINK ABOUT . . . No matter how fast you drive, some other reckless driver will pass you.

"Acme hardware?" Send over a good, strong stepladder!"

NEW SAFETY PRODUCTS

Publication of product announcements in this section should not be construed as endorsement or approval by the National Safety Council.

El 25a

Shatterproof light

This new incandescent bulb is advertised as being shatterproof even when dropped onto a hard surface or dipped in ice water. The glass-shaped bulb is wound with fiberglas yarn and the glass and yarn are bonded into a single unit with a rubbery silicone adhesive. The Flamescent bulb is reportedly glareless and lasts about three times longer than conventional lamps. The waterproof features make it particularly useful for yard and outside display lighting. It is available in standard sizes.

Duro-Test Corp., North Bergen, N. J.

Ho 751p

Lock-cap bottle

A new container designed to protect children from accidental poisoning is now on the market. The plastic bottle has a locking cap with an ABC system for opening similar to formulas used in bank vaults. To open the Lifeguard container (shown here) it is necessary to loosen the cap until the "A" mark on the cap lines up with the arrow on the container, then reverse until the "B" mark lines up with the arrow, then again reverse until the "C" mark lines up with the arrow. The cap may be replaced at any of the ABC positions and seals and locks with a half turn to the right. Costs 49¢ each.

Haynes-Williams Corp., 4980 Park Lake Rd., East Lansing, Mich.

Fi 521a

Fire detection

A home fire detection system is now available in this KH-1 transistor panel. In case of incipient fire in any area protected by thermostats, a bell will sound immediately. It is powered by a 12-volt fire alarm battery advertised to give service up to 18 months under normal operating conditions. The KH-1 will stimulate alarm conditions for drill or test purposes, manually check signal initiating circuit, and manually check the alarm bells, bell line and battery. The panel may be flush-mounted for attractive installation.

Notifier Corp., 3700 N. 56th St., Lincoln 4, Neb.

Ho 757f

Plastic-flame candle

This Safety Candle, run on batteries, has a plastic flame, providing the glow of candlelight without fire hazards. It can be used around the home for table decorations, other candle arrangements, or even as night lights. It also is easily adaptable for candle ceremonies around school and churches. Colored filters are provided which insert easily to produce either clear, red tones, or blue, green or yellow light. The candles are available in 8" or 12" sizes.

Louis J. Linder, 5 Tudor Place, New York 17, N. Y.